

# Enabling Data Interoperability Through Metadata

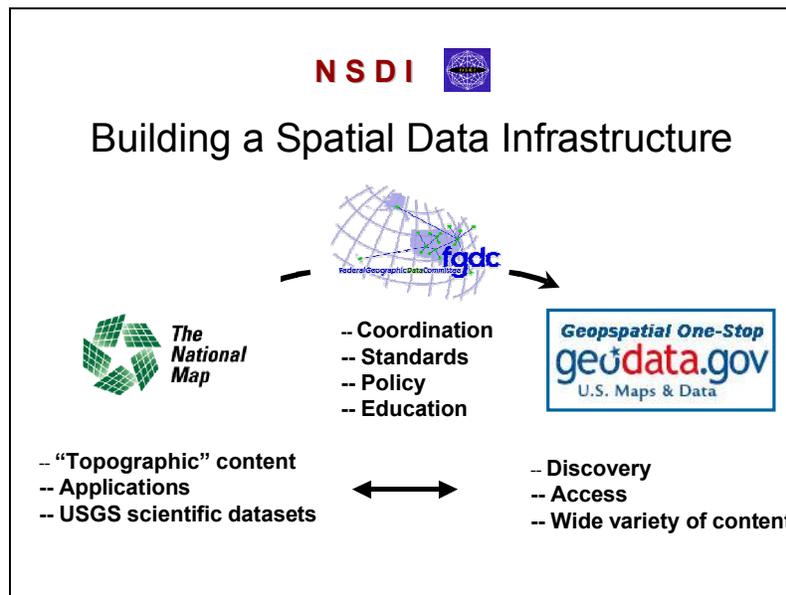
Sharon Shin<sup>1</sup> and Eric Landis<sup>2</sup>

## Introduction

The *National Spatial Data Infrastructure (NSDI)*, *The National Map Program (TNM)*, and *Geospatial One Stop Project (GOS)*, a geospatial data triumvirate, provides geospatial data access to government and citizens.

- The NSDI, through the Federal Geographic Data Committee (FGDC) Secretariat, facilitates the technologies, policies, and people necessary to promote sharing of geospatial data throughout all levels of government, the private and non-profit sectors, and the academic community.
- The National Map is the product of a consortium of federal, state, and local partners who provide geospatial data to enhance America's ability to access, integrate, and apply geospatial data at global, national, and local scales.
- Geospatial One Stop Project, an E-Government initiative sponsored by the Office of Management and Budget, was established to enhance government efficiency and improve service to the citizen through easier, faster, and less expensive access to geospatial data.

The FGDC, through geospatial data policies, standards and partnerships, provides the foundation for data interoperability. FGDC affects data policy through standards implementation at the federal level and voluntary implementation at state and local levels and research institutions. The National Map program works with state and local data developers to create seamless, national data coverages for multiple data categories. The National Map requires FGDC metadata from each data partner prior to data integration. The Geospatial One Stop Project provides easier, faster, and more efficient data discovery and access through metadata for existing data, map services, and data alliance opportunities. The association between FGDC, TNM, and GOS facilitates improved data sharing and dissemination.



<sup>1</sup> Federal Geographic Data Committee; PO Box 25046; Denver, CO 80225 [sharon\\_shin@usgs.gov](mailto:sharon_shin@usgs.gov)

<sup>2</sup> Natural Resources Information Management; 10911 69<sup>th</sup> Street; Stillwater, MN 55082 [elandis@ix.netcom.com](mailto:elandis@ix.netcom.com)

## **Focus on Metadata**

This poster focuses on metadata as the principal agent making data accessible and interoperable in FGDC and GOS activities with special emphasis on community-focused metadata enabling.

The FGDC develops geospatial data standards for implementing the NSDI, in consultation and cooperation with state, local, and tribal governments, the private sector, the academic community, and, to the extent feasible, the international community. Four of the 20 endorsed standards of the FGDC are metadata related: the Content Standard for Digital Geospatial Metadata, the Biological Data Profile, the Shoreline Extension, and the Remote Sensing Extension. The FGDC represents the US in geospatial standards and actively participated in the development of ISO 19115 Metadata Standard. In 2003 FGDC supported a metadata study comparing the FGDC standard against ISO 19115 for the American National Standards Institute's (ANSI) InterNational Committee for Information Technology Standards, INCITS-L1. INCITS-L1, a technical body, addresses information technology and digital geographic data standards. The study identified the FGDC elements not represented in the ISO standard and makes recommendations for resolution. The metadata study will be presented to INCITS-L1 for review. The FGDC also represents the US metadata community in the development of a transboundary metadata content for US and Canadian metadata needs. This activity may also extend to the metadata needs for Mexico. This poster displays basic content differences between FGDC metadata and ISO 19115, the metadata advantages found in ISO 19115, and the US and Canadian standards bodies collaborating on the transboundary metadata content.

The Geospatial One Stop Project improves data access through the implementation of portal technology. The GOS portal allows novice and experienced geospatial community members improved entrée to existing data, through metadata, web services through service provider registration, and data acquisition opportunities and partnerships through a “data marketplace”. This poster outlines locating data through thematic catalogs and metadata query, gaining access to web services, and locating data partnership opportunities through the GOS Portal.

## **A New Project to Enable Metadata Development in Biological and Ecosystem Sciences**

Advances in information technology, recognition of the importance of preserving the nation’s biological legacy, and an increased interest in human and ecosystem inter-relationships by a broadening user community are having a major impact on the role metadata plays in the management and use of biological and ecosystem information. At the 2003 DGO meeting in Boston, and elsewhere, numerous observations have been made indicating the need to further explore methods to enable metadata development.

The Federal Geographic Data Committee (FGDC) is funding an effort to identify the obstacles to, and strategies for improving, metadata development. The project focuses on why metadata development is not being fully employed in the biological and ecosystem science domains. Further, it will identify and provide recommended strategies for use by natural resource management agencies to facilitate metadata development.

This project will have significant impact in the following areas:

1. Easier accessibility, greater longevity, wider sharing, and facilitated reuse of biodiversity and ecosystem data and information sets for use and analysis.
2. Provide metadata development models for use by numerous natural resource management and research units within the US and abroad.
3. Provide greater understand of organizational and personal requirements for those conducting research in automated and manual metadata development applications.